AMENDMENTS TO THE CLAIMS

1-25. (Canceled)

26. (Currently Amended) A method comprising:

searching data stored in a computer readable media for a first initial search result using at least a first portion of a first key; and

~~when~~ if the first initial search result is a route index corresponding to the first key, then returning the route index; and

~~when~~ if the first initial search result is a subtree index for an iterative search, then performing an iterative search of the data stored in the computer readable media, the iterative search comprising: searching the data for an iterative search result using a subsequent key comprising the subtree index found in a preceding search and at least a next portion of the first key; and ~~when~~ if the iterative search result is a route index corresponding to the first key, then returning the route index; and ~~when~~ if the iterative search result is a subtree index for a next search, then performing the iterative search again.

27. (Currently Amended) The method of claim 26 further comprising:

searching the data for a second initial search result using at least a first portion of a second key, wherein the step of searching the data for the second initial search result is performed ~~substantially~~ in parallel with the step of searching the data for the iterative search result.

28. (Previously Presented) The method of claim 27 wherein the first and/or second keys comprise at least one of either a 32 bit IPv4 address or a 128 bit IPv6 address.

29. (Previously Presented) The method of claim 27 wherein the first and/or second keys further comprise a prefix corresponding to a Virtual Private Network identifier.

30. (Previously Presented) The method of claim 26 wherein the data is stored in a lookup table.

31. ((Previously Presented) The method of claim 30 wherein the subtree index comprises a pointer to at least one other entry stored in the lookup table.

32. (Currently Amended) An apparatus comprising:

a forwarding engine ~~for searching~~ configured to search data for a first initial search result using at least a first portion of a first key, wherein the forwarding engine is configured to return a route index ~~when~~ if the first initial search result is a route index corresponding to the first key, and wherein the forwarding engine is configured to perform an iterative search ~~when~~ if the first initial search result is a subtree index, wherein the iterative search comprises: searching the data for an iterative search result based on a subsequent key comprising the subtree index found in a preceding search and at least a next portion of the first key; and ~~when~~ if the iterative search result is a route index corresponding to the first key, then returning the route index; and ~~when~~ if the iterative search result is a subtree index, then performing the iterative search again.

33. (Previously Presented) The apparatus of claim 32 further comprising:

a controller configured to enable parallel processing of at least (i) searching the data for a second initial search result using at least a first portion of a second key, and (ii) searching the data for an iterative search result based on a subsequent key comprising the subtree index found in a preceding search and at least a next portion of the first key.

34. (Previously Presented) The apparatus of claim 33 wherein the first and/or second keys comprise at least one of either a 32 bit IPv4 address or a 128 bit IPv6 address.

35. (Previously Presented) The apparatus of claim 33 wherein the first and/or second keys further comprise a prefix corresponding to a Virtual Private Network identifier.

36. (Previously Presented) The apparatus of claim 33 wherein the data is stored in a lookup table.

37. (Previously Presented) The apparatus of claim 36 wherein the subtree index comprises a pointer to at least one other entry stored in the lookup table.

38. (Currently Amended) An apparatus comprising:

means for searching data for a first initial search result using at least a first portion of a first key, wherein said means is configured to return a route index ~~when~~ if the first initial search result is a route index corresponding to the first key, and wherein said means is configured to perform an iterative search ~~when~~ if the first initial search result is a subtree index, wherein the iterative search comprises: searching the data for an iterative search result based on a subsequent key comprising the subtree index found in a preceding search and at least a next portion of the first key; and ~~when~~ if the iterative search result is a route index corresponding to the first key, then returning the route index; and ~~when~~ if the iterative search result is a subtree index, then performing the iterative search again.

39. (Previously Presented) The apparatus of claim 38 further comprising:

means for controlling the parallel processing of at least (i) searching the data for a second initial search result using at least a first portion of a second key, and (ii) searching the data for an

iterative search result based on a subsequent key comprising the subtree index found in a preceding search and at least a next portion of the first key.

40. (Previously Presented) The apparatus of claim 39 wherein the first and/or second keys comprise at least one of either a 32 bit IPv4 address or a 128 bit IPv6 address.

41. (Previously Presented) The apparatus of claim 39 wherein the first and/or second keys further comprise a prefix corresponding to a Virtual Private Network identifier.

42. (Previously Presented) The apparatus of claim 38 further comprising a means for storing the data.

43. (Previously Presented) The apparatus of claim 42 wherein the subtree index comprises a pointer to at least one other entry in the means for storing the data.

44. (Currently Amended) A method comprising:

searching data stored in a computer readable media for an iterative search result using a subtree index found in a preceding search of the computer readable media and at least a next portion of a first key; and

~~when~~ if the iterative search result is a route index corresponding to the first key, then returning the route index; and

~~when~~ if the iterative search result is a subtree index for a next search, then performing said searching data for an iterative search result again.

45. (Currently Amended) The method of claim 44 further comprising:

searching the data for a second initial search result using at least a first portion of a second key, wherein the step of searching the data for the second initial search result is

performed ~~substantially~~ in parallel with the step of searching the data for the iterative search result.

46. (Previously Presented) The method of claim 45 wherein the first and/or second keys comprise at least one of either a 32 bit IPv4 address or a 128 bit IPv6 address.

47. (Previously Presented) The method of claim 45 wherein the first and/or second keys further comprise a prefix corresponding to a Virtual Private Network identifier.

48. (Previously Presented) The method of claim 44 wherein the data is stored in a lookup table.

49. (Previously Presented) The method of claim 48 wherein the subtree index comprises a pointer to at least one other entry stored in the lookup table.